Planting of corn and beans, the staff of life of most of the people, had been put off in the hope of rain, which is usually adequate for planting before the onset of the rainy season proper about July 1.

Then came a three-day rain, described as being, for that region, "most extraordinary." It was estimated that more than an inch fell, enough to practically assure successful planting—but enough also to damage the wheat crop to some extent in parts of Chihuahua.

Newspaper clippings indicate that this downpour was followed in southern Mexico on the 6th and 7th of June by wind and rain storms which in Mexico City caused the collapse of many houses in the poorer districts, and which in the Isthmus of Tehuantepec brought serious floods. In the latter region more than 100 lives were reported lost. Several small villages were wiped out. The cities of Juchitlan and Tehuantepec were reported "almost submerged." Damage to railroad property was extreme; the track of the Tehuantepec Railway for many kilometers was destroyed; a freight train was swept "four miles from its track" by the rush of waters. Telegraphic communication was suspended.

One favorable result of the rains was the extinguishing of fires in the turpentine forests near Nexaca.—*B. M. V.*

TORNADOES IN IOWA DURING JUNE, 1925

The following table is taken from a detailed report submitted by Mr. Arthur H. Christensen, Weather Bureau office, Des Moines, Iowa.

Iowa Tornadoes during June, 1925

Nearest towns	Date	Time	Direction of movement	Length of path	Persons killed	Persons injured	Estimated damage
I. Milford	1	P. m.	SW. to NE.	Short	0	0	
II. Glenwood and Silver City.	2	4 p. m. to 5 p. m.	SW. to NE.	45 miles	0	4	$50,000
III. Onawa, Monona County, to Cushing, Woodbury County.	2	4 p. m. to 5 p. m.	SW. to NE.	46 miles	0	4	480,000
IV. Red Oak, Montgomery County.	2	6:10 p. m.	SW. to NE.	11 miles	0	5	100,000
V. Adair, Adair County.	2	8:30 p. m.	SW. to NE.	20 miles	3	3	100,000
VI. Northwest part of Iowa County.	2	10:15 p. m.	SW. to NE.	Short	0	0	
VII. Neola, Pottawattamie County.	3	5:30 p. m.	SW. to NE.	5 miles	0	0	750,000
VIII. Neola and Persia.	3	6 p. m.	S. to N.	10 miles	1	21	
IX. Jefferson, Greene County.	3	9 p. m.	SW. to NE.	15 miles	0	1	10,000
X. Alexander, Franklin County.	11	4 p. m. to 4:45 p. m.	SW. to NE.	15 miles	1	18	350,000
XI. Dumont, Butler County.	11	4:30 p. m.	SW. to NE.	1 mile	0	0	150,000
XII. Greene, Butler County.	11	5 p. m.	SW. to NE.	2 miles	0	0	
XIII. Carrville, Floyd County.	11	6:30 p. m.	SW. to NE.	¼ mile	0	0	
XIV. Nashua, Chickasaw County.	11	6:30 p. m.	SW. to NE.	Short	0	0	
XV. Tabor, Fremont County.	28	2 a. m.	NW. to SE.	6 miles	0	0	10,000
Total				170 miles	5	56	2,000,000

INTENSE RAINSTORM OF JULY 3, 1925, DUBUQUE, IOWA

Mr. H. Merrill Wills, in charge of the Weather Bureau station at Dubuque, reports that during the evening of July 3, 1925, the city was visited by a rainstorm of unusual intensity, the second of the sort within 19 days following nine consecutive months of deficient precipitation. The total rainfall of this second storm was 3.47 inches (3.19 inches having been recorded in the first, during the night of June 14–15). The greatest falls within limited periods were: 5 minutes, 0.46 inch; 10 minutes, 0.81 inch; 15 minutes, 1.12 inches; 30 minutes, 1.86 inches; 1 hour, 2.29 inches; 2 hours, 3.22 inches.

Including the two storms just passed, 25 have brought precipitation exceeding 3 inches in 24 hours at Dubuque since 1874, or an average of one every two years.

The depressions along the wind-shift lines of which the two recent storms took place were of no unusual intensity. On July 3, occurred a maximum temperature of 96° at 2:30 p. m., the wind having been previous to that time SW., but shifting then to NW. and W., whence at about 5 p. m. it returned to SW. with the beginning of the rain, and so continued through most of the storm, reaching a maximum velocity of 37 miles per hour. The temperature dropped from 94° at 4:50 p. m. to 69° at 6 p. m.

Typical accompaniments of a severe thunderstorm are noted in the report: In this case the killing of two persons and injury of another; extensive damage to trees, gardens, telephone and other wire systems; flooding of sewers, streets, and basements. The estimate of total property damage is $50,000.

[With reference to the maximum recorded wind velocity, the question may be raised as to whether the Weather Bureau anemometer was located in the path of greatest wind force in this storm. In another part of the city a portion of the roof of a wagon factory was blown off and a side wall blown in; this, together with the destruction of large trees, indicates a degree of damage incommensurate with a wind velocity of only 37 miles per hour. This velocity is that of a "high wind," force 7, on the Beaufort scale, for which the specification is: "Whole trees in motion; inconvenience felt when walking against wind." For the specification which seems to describe this storm, namely, "trees uprooted; considerable structural damage occurs," the wind is a whole gale, force 10, velocity 55–63 miles per hour.]—*B. M. V.*

INCIPIENT TORNADO IN IDAHO

F. P. HOLT

Mr. Fred P. Holt, a former employee of the United State Weather Bureau, supplies us with the following particulars of a phenomenon observed by him in southeastern Idaho on July 4, 1925. It was evidently a tornado in the making; its failure to develope into a destructive whirl must be ascribed to the unfavorable atmospheric conditions near the surface of the ground:

About noon I observed a typical tornado which did not reach destructive proportions. A thunderstorm was approaching from the south, following the Portneuf River Valley, and a horizontal stratum of cloud at an estimated elevation of about 1,500 feet was accompanying the approaching storm. My attention was attracted to a small suspended mass of cloud which quickly assumed the form of an inverted cone. This cone rapidly became longer and more slender and the lower extremity swung irregularly from side to side from the vertical. As the storm approached, the rapid rotary spiral motion was distinctly observed with a very rapid vertical motion.

At its maximum development, I estimate the column to have been 500 to 800 feet long. At no time did it extend more than halfway from the cloud stratum to the valley floor.

From the maximum development above described, the swaying trunk gradually became shorter and shorter and my last observation was of a small agitation on the under surface of the cloud stratum. * * *

MASCART ON CHANGES OF CLIMATE

Mascart, Jean: Notes sur la variabilité des climats. Documents Lyonnais, Études de Climatologie, première partie, introduction générale historique. Lyon. M. Audin et Compagnie. (Not dated.)

Not since the publication of Ward's discussion of changes of climate, in his *Climate, Considered Especially in Relation to Man*, have climatologists been furnished with a more useful work. The director of the Lyon Observatory set himself a tremendous task. The result might almost have been called a "Handbook on the Variability of Climates."

Concise outlines of the historical development undergone by the various hypotheses of climatic change occupy each a short chapter. There is no lack of searching criticism and sprightly comment on the contradictions revealed by comparison of the different hypotheses. Nor has Mascart hesitated to include the views of the less authoritative writers or even of the occasional "vulgarisateur." In spite of the feeling that perhaps the work is thus a bit encumbered, one concludes that to quote them has after all served a purpose.

The author has avoided repetition of citations by wisely placing most of the references in a bibliography, compressed into some 60 pages near the end of the book. About a thousand authors are cited; probably not all readers will agree that the most important contribution of each has been included. But whatever the slight failing in this regard, it fades into insignificance in comparison with the vast usefulness of the whole. A valuable feature of this bibliography are the numerous references to abstracts and reviews.

To some readers the complex array of hypothesis and counterhypothesis will but prove that the whole question of changes of climate is in a bad way. To others it will distictly indicate hope of progress. That is the spirit of the "Critical Résumé" and "Conclusions." They constitute a diagnosis which everyone interested in the question will do well to read with care. The author emphasizes the value of a great erudition as the basis for acquiring that broad *and rare* perspective which alone can furnish adequate foundation for research into this baffling subject. He presents, moreover, a vivid arraignment of meteorology and climatology as having progressed in spite of the data which they have amassed, not because of them. The trouble is statistical indigestion. Failure to recognize this has been the cause of much bootless researching. Not until climatologists are willing to put their data through drastic sifting processes capable of discovering the nature of terrestrial atmospheric changes, may they hope for any real progress toward the discovery of causes. Especially for those who have a tendency to enter somewhat light-heartedly into research on fluctuations of climate, Mascart has a clear message.—*B. M. V.*

METEOROLOGICAL SUMMARY FOR SOUTHERN SOUTH AMERICA, JULY, 1925

[Reported by Señor J. B. Navarrete, El Salto Observatory, Santiago, Chile. Translation by B. M. V.]

July in general was relatively rainy over the whole southern part of the continent, and especially so during the second half of the month.

On the 1st, pressure rose over the whole southern region, resulting in the establishment of an anticyclonic régime, with good weather, cold and frosts, which lasted until the 13th.

On the 3d an important depression appeared in the northwest in the latitude of Coquimbo Province, causing brisk winds and rain from Iquique to Illapel. The maximum precipitation was observed at Ovalle, 28 mm. On the 4th occurred the phenomenon of the compression of the cyclone by strong converging winds, in harmony with the laws of Guilbert.

In the Argentine during the 2d to 4th, there were rains between Bahia Blanca and Salta. On the 6th and 7th an important depression affected Buenos Aires Province, with strong winds and heavy showers. At Bahia Blanca, 14 mm. fell on the 6th.

On the 14th a considerable depression appeared in the west, while the southern anticyclone spread toward the interior of the continent. During the 15th–18th the major depression began to affect the central zone of Chile, causing bad weather and rains. The heaviest precipitation was observed at Valparaiso on the 17th, 51 mm. During the 19th–23rd the depression gradually spread southward, and rainy and windy weather continued to alternate with each other in the provinces of southern Chile. On the 20th, the velocity of the NW. wind at Juan Fernandez reached 1,700 m. p. m. [63.3 m. p. h.].

On the 24th a new depression appeared in the west. It began to affect the continent on the 25th. On the 26th, rainy and windy weather dominated the region from Valparaiso to Corral. At the Island of Mocha the north wind attained a velocity of 1,800 m. p. m. [67.1 m. p. h.]. On the 27th–28th the depression advanced southward, causing a decrease in pressure in that region.

On the 30th, a new depression passed on the south, the pressure falling to 736 mm. (981 mb.) at Punta Arenas on the 31st. It rained from Valdivia to Magellanes.

BIBLIOGRAPHY

C. FITZHUGH TALMAN, Meteorologist in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Associated factory mutual fire insurance companies.
Effects of tornadoes on factory buildings, with especial reference to the Missouri-Illinois-Indiana tornado, March 18, 1925. Boston. 1925. 25 p. illus. 18½ cm.

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Besson, Louis.
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Bradfield, F. B.
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Regenkarte der Schweiz. sheet. 48 x 64 cm. (Beilage zur "Vegetation der Schweiz, Beiträge zur geobotanischen Landesaufnahme." H. 12, Zürich, 1923.)